Joint CB Mission Area Domain Research, Development and Acquisition Modeling & Simulation

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to the

Joint Collaboration Breakout Session

Simulation Modeling Acquisition Requirements Training

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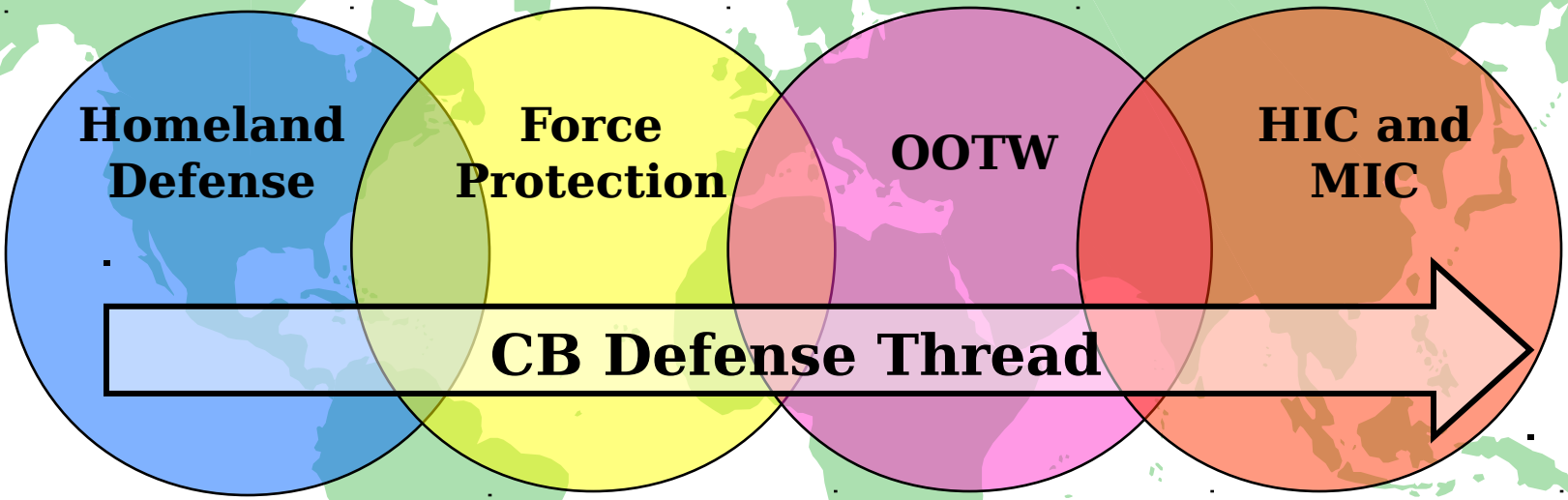
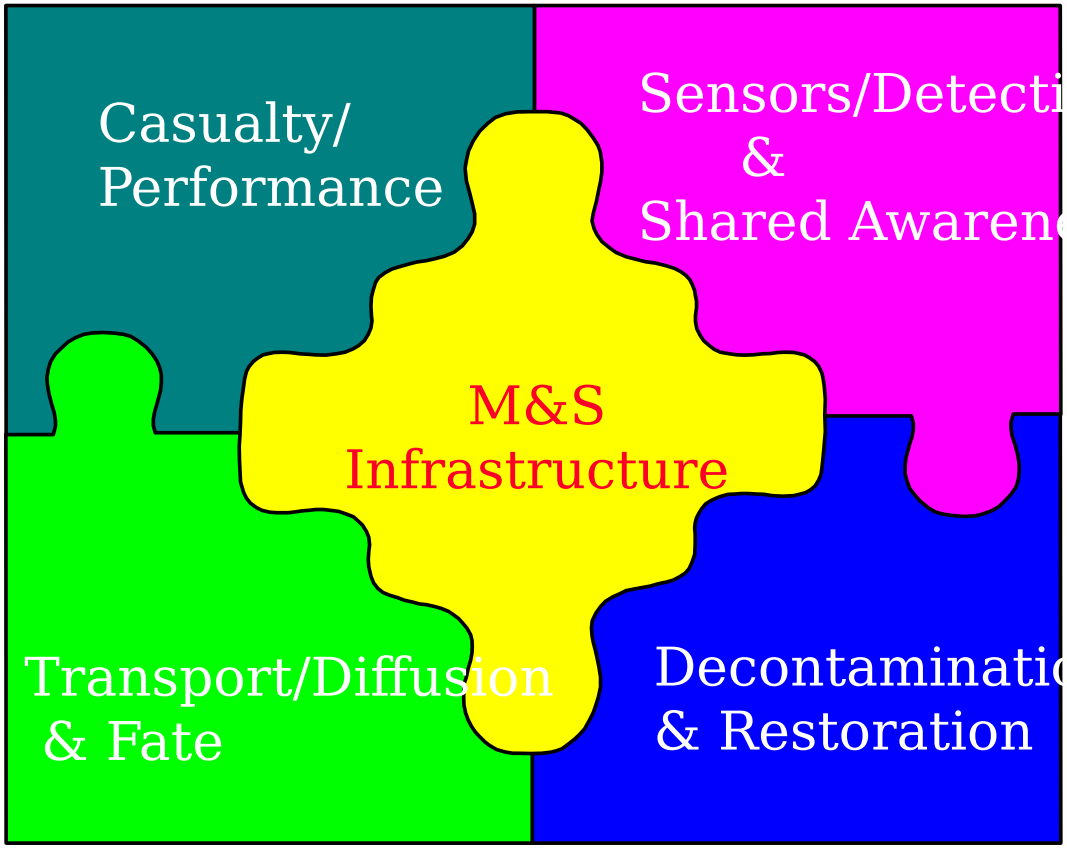
The Symmetrical and Asymmetrical CB Threat is increasing globally and at home.
New Technologies and systems will be required as we move through the 2004, 2010 and 2020 time horizons.



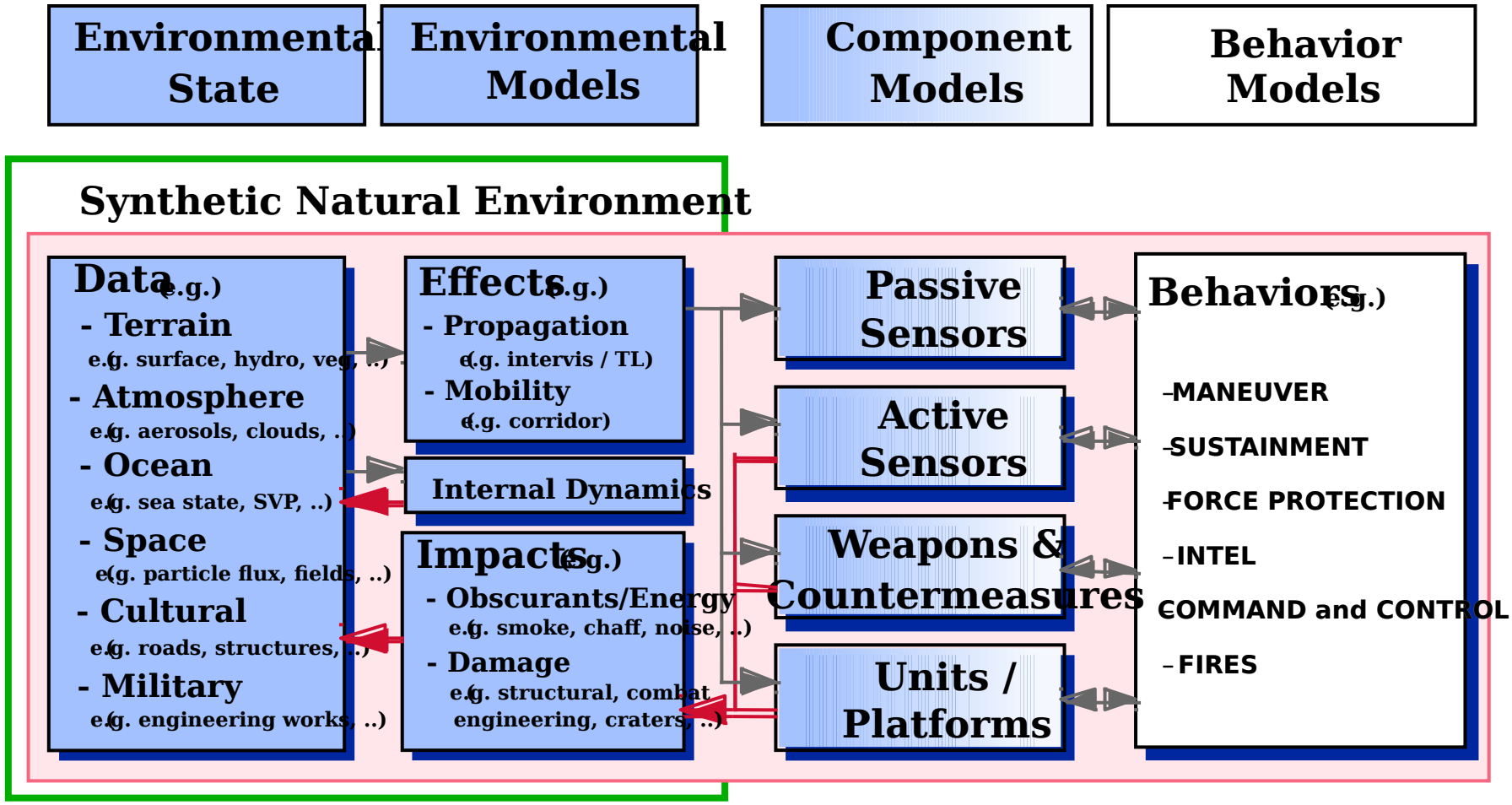
In the Joint and National operational domains CB incidents may occur on the land component of the Joint Battlespace. These incidents may occur in URBAN like settings or against elements of the logistics infrastructure such as assembly areas and airfield

CBDE M&S Elements



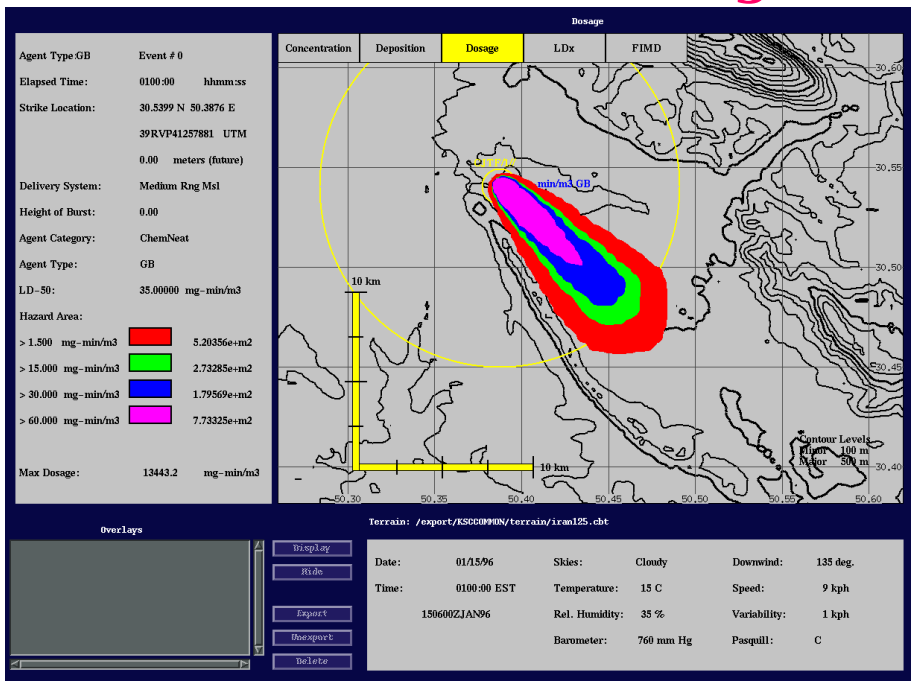
Consistent Representation of the NBC environment, it's effects, and NBC defense systems in ACR/RDA/TEMO models and simulations domains

Conceptual Reference Model



NCBR Simulation

Computes Location, Size, and Concentration of CBR Agent Cloud



- **Currently Based on Either VLSTRACK or SCIPUFF, Transport and Diffusion Models**
  - **Complex Terrain and Weather**
  - **All Threat CBR Delivery Systems**
  - **Multiple and Simultaneous Attacks**
- **Real-time CBR Cloud and Entity Display; Concentration, Ground Deposition, Dosage**
- **Prompt Nuclear Effects**
- **HLA and DIS Compliant and Certified**
- **Able to Host Other Scientific Transport and Dispersion Models Such As Those Needed to Support Urban Operations and Homeland Defense**

Enables Access to other Simulations via HLA/DIS Network

CB ModSAF

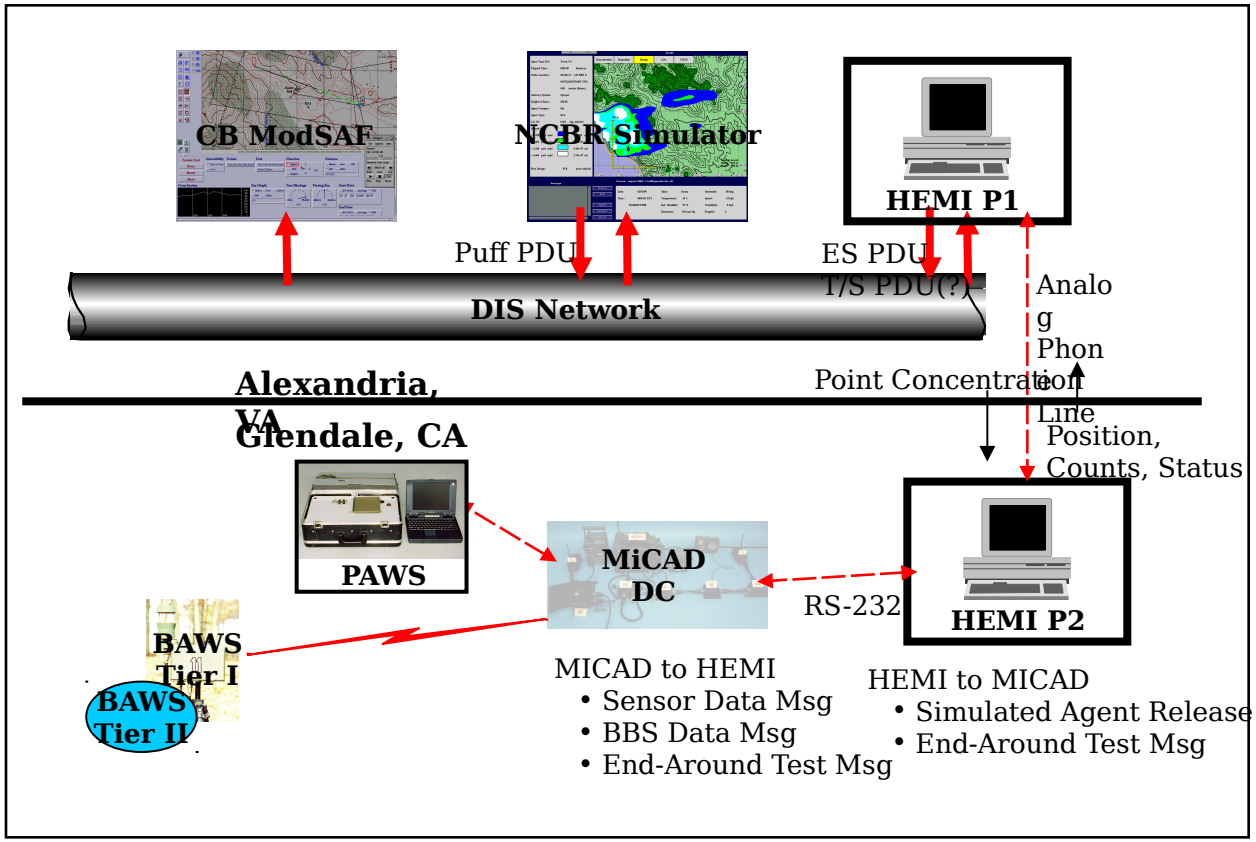
Modular, Semi-Automated Forces - Provides individual and aggregate combat scenarios

units in CBR

- **Friendly and Enemy Forces**
- **3-D Terrain, Foliage, Buildings, Roads, etc.**
- **NCBR Simulator Interface**
- **MM1, M8, BAWS Point Detectors**
- **M21, LSCAD, and BSDS Stand-off Detectors**
- **FOX, BIDS and LNBCRS Vehicles**
- **MICAD, JWARN**
- **Radio/Communications**
- **Stealth Viewer**
- **Migration to the OneSAF Baseline**

ATD Software/Hardware Integration Demonstration

- **Primary Function of Suite Is to Support SBA and Combat Developers (Reqs., MAAs)**
  - **System Will Enable Evaluation of Materiel Solutions that Address 32 of the 55 JFOCs**
- **Leverages Hazard Models, Detector Models**
- **Applies DIS, HLA**



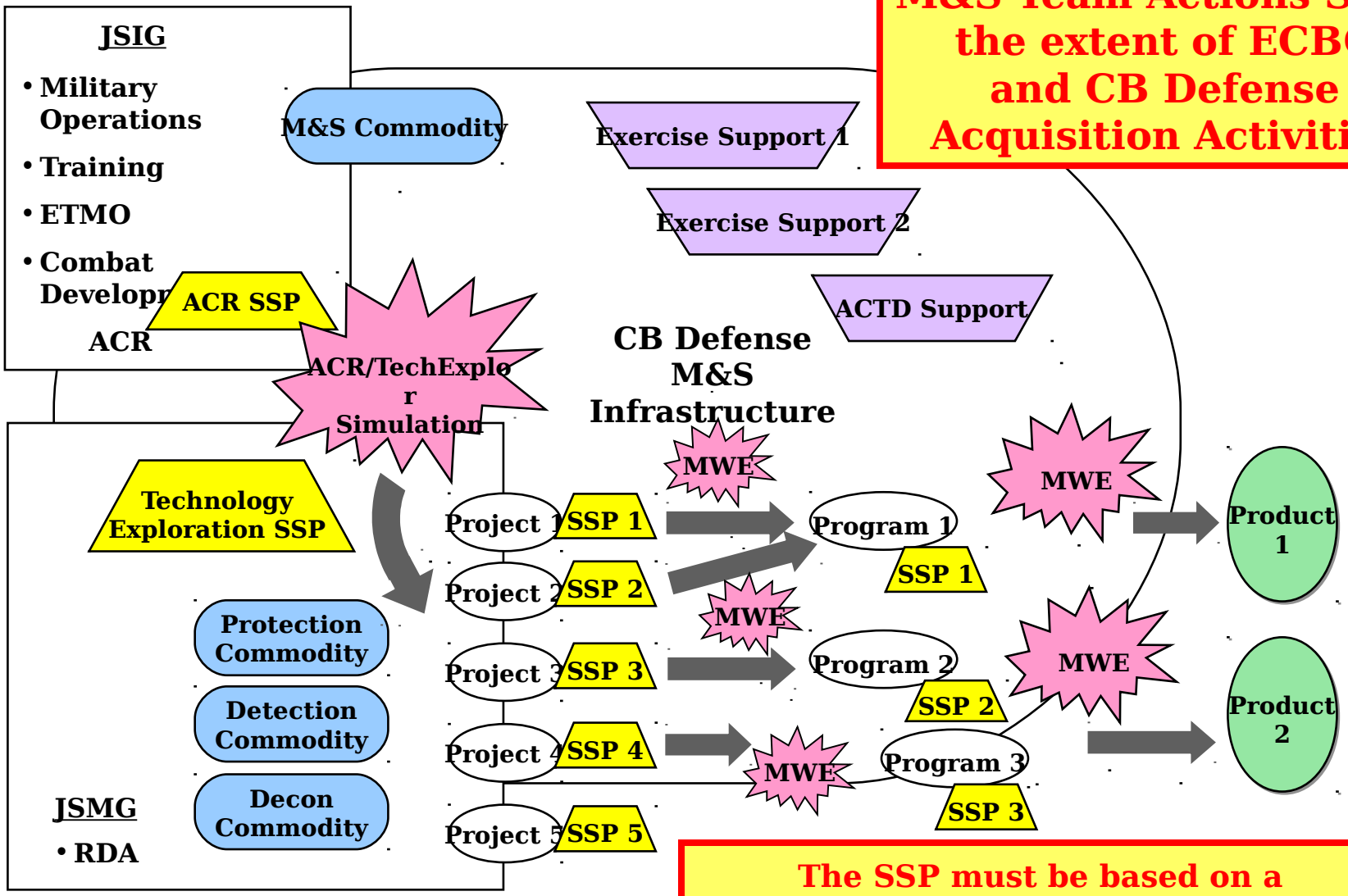
Characteristics of CB Defense Equipment

- **ACAT III and IV**
- **Key Army Players; Maneuver Support Center, SBCCOM, Dugway Proving Ground**
- **Financed with Joint Money**
  - **No Service Money Since 1996**
  - **Army Is the Executive Agent**
- **CB Defense Is a Combat Support Function**
  - **Most M&S Is Directed to Combat Operations of Primary Weapons Platforms**
- **Need Exists to Buy Way into Large Simulations such as OneSAF, STOW, etc.**
- **Program Resources for M&S Are Scarce**
  - **In Some Cases, the M&S Development Could Compromise the Product Development**

CB Defense Mission Area Domain SBA/SMART Process

The need exists to evaluate technologies & conceptual systems in a synthetic operational environment.

M&S Team Actions Span the extent of ECBC and CB Defense Acquisition Activities.



The SSP must be based on a definitive analytical requirement that supports acquisition decisions.

Mission Area Domain

- **Collaborative Development by Research Technology, CBDE Programs, Test & Evaluation, Requirements, Trainers, Analysis Centers,**
  Battle Labs
  - **Need Common Representations in Joint and Service Large Scale M&S**
  - **Applying Common Tools; HLA, DIS**
- **Military Worth Experiments to Bring Combat and Material Developers Together**
  - **Live**
  - **Virtual**
  - **Constructive**

CB Defense M&S Mission Area Domain

- **Shared Interests of Army, Marines, Navy and Air Force Expressed through**
  - **Joint Service Integration Group (JSIG) for Training, Analysis, Requirements**
  - **Joint Service Material Group (JSMG)**
  - **Various PMs with Joint Product Responsibility**
- **Governed by Joint Service CB Tech Base Panel and the TARA**
- **Ongoing Joint Overarching IPT for CB M&S Will Have a Significant Impact**
- **The Pending Appointment of a CB Defense M&S Commodity Area Manager Will Bring Focus and Resources to Achieve Common M&S Goals**

Challenges to Be Overcome

- **SBA/SMART Culture Gap Between the Services and at Various Acquisition Levels**
- **Most Established M&S Is based on the Heavy Battle Field**
- **Overall Under Investment in Urban, Individual Combatant Simulations**
  - **Where the Asymmetrical Engagement will Occur**
  - **The Domain of the ACAT III and IV CB Defense Equipment**